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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,668

09/19/2005

Satoru Shoshi

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EXAMINER

DESAI, ANISH P

ART UNIT

PAPER NUMBER

1787

NOTIFICATION DATE

DELIVERY MODE

06/25/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/549,668	SHOSHI, SATORU	
	Examiner	Art Unit	
	ANISH DESAI	1787	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's arguments in response to the Office action (OA) mailed on 12/28/09 have been fully considered. Support for amended claim 7 is found in the specification (e.g. page 5) as originally filed.
2. In view of applicant's amendment, the 112-first paragraph rejections to claim 7 withdrawn.
3. With respect to the prior art rejection based on the Shiyoji (JP 2003-096410) (published on April 3, 2003), the Examiner had unintentionally applied this reference as **102(b)**. The publication date of Shiyoji is between the 371 date and the foreign priority date. Applicant has provided sworn English translation of the priority document to remove Shiyoji as a prior art. Since, the presently claimed invention finds support in the aforementioned priority document, the Examiner is withdrawing Shiyoji as a prior art.
4. Upon further search and consideration, a new 103 (a) rejection based on Nagamoto et al. (US 6,156,423) in view of Ebe Kazuyoshi et al. (JP 62-153376A) is made. Since, this rejection was not necessitated by applicant's amendment, the present Office action is made Non-Final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagamoto et al. (US 6,156,423) in view of Ebe Kazuyoshi et al. (JP 62-153376A).**

6. **Regarding claims 1 and 8**, since these claims recite “an optionally one or more polymerizable compounds”, it is submitted that the polymerizable compounds as are not considered to be a part of the presently claimed invention. Alternatively, at column 3 lines 2-3 and column 4 lines 15-27, Nagamoto discloses (meth) acrylic esters (as reactive diluent), which meets the aforementioned claim recitation.

7. Claim 1 requires PSA sheet having a structure of hard coat layer/cured urethane (meth) acrylate layer/PSA layer. Nagamoto teaches adhesive tape having a layer of base material that has a film layer, wherein the film layer is formed of cured urethane (meth) acrylate (column 3 lines 1-2), wherein the urethane (meth)acrylate is a di-functional urethane (meth) acrylate having molecular weight of 500 to 50,000 (see

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column 4 lines 5-10). Further, at column 6 line 29, Nagamoto teaches "UX-3301" (brand name) urethane (acrylate) having molecular weight of about 8,000.

8. **As to the claim requirement of** the molecular weight of urethane (meth) acrylate being a ***weight*** average molecular weight (claims 1 and 7), Ohashi et al. (US 2005/0269717A1) is relied upon as an evidence to show that the molecular weight of urethane (meth) acrylate disclosed by Nagamoto is a ***weight*** average molecular weight (see 0090 of Ohashi and column 6 line 29 of Nagamoto).

9. **As to the claim requirement of the hard coat layer**, it is submitted that applicant has not provided any structure and/or composition of the hard coat layer. Nagamoto teaches a presence of a barrier layer 2 next to the urethane (meth) acrylate film layer 1 (see Figure 2). As such, the barrier layer 2 of Nagamoto is equated to the claimed "hard coat layer".

10. **With respect to claim requirement of the adhesive layer in contact with the cured urethane (meth) acrylate layer**, it is noted that at column 5 lines 60-66, Nagamoto teaches that both sides of the film layer (i.e. urethane (meth) acrylate film) may have the barrier layers 2 (hard coat layer) as necessary ***and one or both sides of the barrier layers can have the adhesive layer***. The Examiner interprets this disclosure as Nagamoto discloses a structure of the adhesive tape having adhesive layer/barrier layer/adhesive layer/film layer/adhesive layer/barrier layer/adhesive layer.

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As such, the adhesive layer of Nagamoto is in contact with the urethane (meth) acrylate film layer.

11. **With respect to the claims 1 and 8 limitations “wherein the content of the difunctional urethane (meth)acrylate is 80 percent or more by mass” and “95 percent of more by mass”**, it is submitted that since the presence of “polymerizable compounds” is optional in the presently claimed invention, based on the mass of the difunctional urethane (meth)acrylate alone, the disclosure of Nagamoto relating to the presence of urethane (meth) acrylate (column 3 lines 1-5) would read on the aforementioned claim limitation (i.e. based on the urethane (meth) acrylate alone, the mass% of urethane (meth) acrylate would be 100%). Alternatively, at column 4 lines 28-31, Nagamoto discloses 5-95% difunctional urethane (meth) acrylate and 95-5% of polymerizable compound (reactive-diluent monomer).

12. **As to the claim 1 requirement of the adhesive layer being a pressure sensitive adhesive**, Nagamoto does not explicitly teach that the adhesive layer of his invention is a pressure sensitive adhesive.

13. However, Ebe discloses a pressure sensitive adhesive sheet (see abstract). It is further noted that Nagamoto at column 5 line 55 discloses that the adhesive used in his invention are those disclosed by Ebe (i.e. JP 62-153376).

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14. As such, it would have been obvious to use a pressure sensitive adhesive as disclosed by Ebe in the Nagamoto, because Nagamoto desires pressure sensitive adhesives such as those described by Ebe.

15. **Claims 1, 4, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagamoto et al. (US 6,139,953) in view of Onozawa et al. (US 6,103,370).**

16. **With respect to claims 1 and 8**, since these claims recite “an optionally one or more polymerizable compounds”, it is submitted that the polymerizable compounds as are not considered to be a part of the presently claimed invention. Alternatively, at column 3 lines 45-50, Nagamoto discloses (meth) acrylic esters (as reactive diluent), which meets the aforementioned claim recitation.

17. **With respect to claims 1 and 8**, Nagamoto discloses a base material for adhesive tape, wherein the base material is formed of a urethane acrylate (i.e. urethane (meth) acrylate) having a molecular weight of from 500 to 100, 000 (column 3 lines 15-20). Additionally, the urethane acrylate of Nagamoto is a difunctional urethane acrylate (column 3 lines 15-20). Further, Nagamoto teaches a layer of adhesive 3 on the base material 2 (see Figure 3). Additionally, given that Nagamoto and applicant both use same type of adhesive, e.g. rubber based, and acrylics (column 5 lines 15-20 of

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Nagamoto and paragraph 0053 of Pg pub of this application), it is clear that the adhesive of Nagamoto is a pressure sensitive adhesive.

18. **As to the claim requirement of** the molecular weight of urethane (meth) acrylate being a ***weight*** average molecular weight (claims 1 and 7), Ohashi et al. (US 2005/0269717A1) is relied upon as an evidence to show that the molecular weight of urethane (meth) acrylate disclosed by Nagamoto is a ***weight*** average molecular weight (see 0090 of Ohashi and column 5 line 46 of Nagamoto both disclosing same brand name urethane acrylate "UX-3301").

19. **With respect to the claims 1 and 8 limitations "wherein the content of the difunctional urethane (meth)acrylate is 80 percent or more by mass" and "95 percent of more by mass"**, it is submitted that since the presence of "polymerizable compounds" is ***optional*** in the presently claimed invention, based on the mass of the difunctional urethane (meth)acrylate alone, the disclosure of Nagamoto relating to the presence of urethane (meth) acrylate (see abstract) would read on the aforementioned claim limitation (i.e. based on the urethane (meth) acrylate alone, the mass% of urethane (meth) acrylate would be 100%). Alternatively, at column 3 lines 24-25, Nagamoto discloses 5-95% difunctional urethane (meth) acrylate and 95-5% polymerizable compound.

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20. As such, Nagamoto generally discloses a PSA tape having a structure of cured urethane (meth) acrylate layer/PSA layer.

21. The difference between the claimed invention and the prior art of Nagamoto is that Nagamoto is silent as to teaching the hard coat layer (claim 1), hard coating layer comprising filler (claim 4), and the composition of the hard coat layer (claim 9).

22. However, Onozawa discloses a hard coat sheet having a base sheet, a hard coat layer provided on the base sheet, and an adhesive layer that is provided on the back of the base material (abstract and column 3 lines 60-65). The hard coat layer of Onozawa comprises radiation curing silicone resin based on 100 parts by weight of multi-functional acrylate (abstract). Further, Onozawa discloses that the hard coat of the invention includes filler to provide anti-glare properties (column 1 lines 56-59 and column 3 lines 19-28).

23. It is noted that the PSA sheet of Nagamoto that is used in the steps of back grinding and dicing of silicon wafers (column 6 lines 48-50). The hard coat of Onozawa has anti-fouling property, anti-glare property, and anti-bacterial property (abstract) which would be desirable in the invention of Nagamoto.

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24. Based on the above, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use hard coat layer of Onozawa which reads on claims of the presently claimed invention, and use it in the invention of Nagamoto so as to arrive to the PSA sheet of the presently claimed invention, motivated by the desire to use a hard coat layer that provides anti-fouling property, anti-glare property, and anti-bacterial property to the PSA sheet.

25. **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagamoto et al. (US 6,139,953) in view of Onozawa et al. (US 6,103,370) as applied to claim 1 above, and further in view of Mori Satoru (Machine translation of JP 11-189762).**

26. Nagamoto is silent as to teaching claim 3.

27. However, **as to the claimed thickness of the hard coat layer**, Onozawa at column 3 lines 61-62 discloses a hard coat layer having a thickness in the range of 1 to 10 μm . As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the thickness of the hard coat layer as taught by Onozawa which reads on the thickness of the claimed hard coat, motivated by the desire to form a hard coat layer with a suitable thickness which can provide anti-fouling and anti-bacterial properties (column 1 lines 37-41 of Onozawa).

28. **Nagamoto as modified by Onozawa are silent as to teaching the thickness of the cured urethane (meth) acrylate layer.**

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29. **However, Mori discloses** a urethane acrylate resin sheet as a substrate for adhesive sheet (see abstract). Further, on page 13, paragraph 0027, Mori discloses the thickness of the cured urethane acrylate layer to be 1 to 1,000 μm and preferably 10-500 μm . As such, it would have been obvious to select the urethane (meth) acrylate layer having a thickness as taught by Mori in Nagamoto so as to provide proper strength and handling capabilities to the urethane (meth) acrylate layer.

30. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagamoto et al. (US 6,139,953) in view of Onozawa et al. (US 6,103,370) as applied to claim 1 above, and further in view of Furuya et al. (US 6,150,026).**

31. Nagamoto as modified by Onozawa is silent as to teaching the protecting film laminated on the surface of the hard coat layer.

32. However, the reference of Furuya is relied as an evidence to show that it is known to apply protective layer on the surface of a hard coat layer. Specifically, Furuya discloses a polypropylene based resin exterior panel that includes a hard coat layer (column 1 lines 5-20 and column 2 lines 45-50). Further, at column 7 lines 27-35, Furuya teaches of forming of a protective film layer on the surface of the hard coat layer to protect the surface of the exterior panels from dirt, dust etc. (column 7 lines 25-30).

33. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a protective film layer on the hard coat layer of

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the PSA sheet, motivated by the desire to protect the surface onto which the PSA sheet is applied from dirt and dust.

Response to Arguments

34. Applicant's arguments filed on 03/26/10 have been fully considered, but are moot in view of new ground(s) of rejection.

Conclusion

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 9:00AM-5:30PM.

36. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

37. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./

Examiner, Art Unit 1787

/Callie E. Shosho/

Supervisory Patent Examiner, Art Unit 1787